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The situation of the post COVID-19 symptoms of patients in Da Lat City, Lam Dong Province Vietnam

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Abstract--This cross-sectional descriptive study aims to study the status of the post-COVID-19 syndrome and its impact on the quality of life of people in Da Lat city, Lam Dong province. The study was completed in March 2022 with 120 patients experiencing health problems after being infected with COVID-19. Results of the study: The most common symptom of post-COVID-19 syndrome is a persistent cough (85.8%), followed by sleep disturbances (50.8%) and chest tightness, shortness of breath (50%). The more severe the manifestation of the disease in the acute phase, the higher the risk and severity of the post-COVID-19 syndrome. Post-COVID-19 syndrome is adversely affecting the quality of life of patients (95%) by reducing both the physical and mental health of the patient.

Keywords---Post-COVID-19 syndrome, persistent cough, patients.

Introduction

Currently, many patients after being infected with COVID-19 have experienced persistent symptoms, even having to return to the hospital for treatment. Research results show that 33%-76% of patients may experience post-COVID-19 symptoms lasting at least 6 months after infection, 20% of patients have to be re-hospitalized; 80% of patients must be monitored at a primary care facility within 2 months of discharge.

Carfi et al (2020) stated that In Italy, a large proportion of patients with coronavirus disease 2019 (COVID-19) presented with symptoms (71.4% of 31 845 confirmed cases as of June 2020). Common symptoms include cough, fever,

dyspnea, musculoskeletal symptoms (myalgia, joint pain, fatigue), gastrointestinal symptoms, and nosmia/dysgeusia. However, information is lacking on symptoms that persist after recovery. Anjana et al (2021) said COVID 19 is associated with the development of post COVID syndrome usually manifested as fatigue, anxiety, joint pain, headache, chest pain, dementia, depression, and dyspnea. Documented evidence of post COVID syndrome among patients with asymptomatic or mild infections, especially from India is less.

The World Health Organization (WHO) has published the first official definition of a post COVID-19 condition (post COVID-19 condition). Accordingly, the post-COVID-19 condition occurs in people with a history of infection with symptoms and lasts at least 2 months that cannot be explained by an alternative diagnosis. This condition can cause long-term deterioration in a person's health, having a serious impact on their ability to return to work or participate in social life. Post-COVID-19 affects physical mental health and can have significant economic consequences for individuals, families and society. This study was conducted to evaluate the status of post-COVID-19 syndrome and its impact on quality of life and the need for treatment of this syndrome in patients infected with COVID-19 in the Da Lat city, Lam Dong province.

Research questions

Question 1: What are most common symptom of post-COVID-19 syndrome in case of patients infected with COVID-19 in the Da Lat city, Lam Dong province?
Question 2; Present any results or impacts on their quality of life?

Literature review

First, Pham Thi Bich Ngoc, Dinh Tran Ngoc Huy, Vu Thanh Binh, Pham Thi Hong Nhung and Ngo Huy Hoang. (2021) mentioned that it is better to have Health Care Policy for Patients with Corona Virus during COVID 19 and with Chronic Heart Failures and Roles of Nurses at Hospitals in Vietnam

Next, Carfi et al (2020) found out From April 21 to May 29, 2020, 179 patients were potentially eligible for the follow-up post-acute care assessment; 14 individuals (8%) refused to participate and 22 had a positive test result. Thus, 143 patients were included. The mean age was 56.5 (SD, 14.6) years (range, 19-84 years), and 53 (37%) were women. During hospitalization, 72.7% of participants had evidence of interstitial pneumonia. The mean length of hospital stay was 13.5 (SD, 9.7) days; 21 patients (15%) received noninvasive ventilation and 7 patients (5%) received invasive ventilation.

Then, Salamanna et al (2021) mentioned Whilst the entire world is battling the second wave of COVID-19, a substantial proportion of patients who have suffered from the condition in the past months are reporting symptoms that last for months after recovery, i. e., long-term COVID-19 symptoms. We aimed to assess the current evidence on the long-term symptoms in COVID-19 patients. We did a systematic review on PubMed, Web of Science, EMBASE, and Google Scholar from database inception to February 15, 2021, for studies on long-term COVID-19 symptoms. We included all type of papers that reported at least one long-term

COVID-19 symptom. They found that 20.70% of reports on long-term COVID-19 symptoms were on abnormal lung functions, 24.13% on neurologic complaints and olfactory dysfunctions, and 55.17% on specific widespread symptoms, mainly chronic fatigue, and pain. Despite the relatively high heterogeneity of the reviewed studies, our findings highlighted that a noteworthy proportion of patients who have suffered from SARS-CoV-2 infection present a “post-COVID syndrome.” The multifaceted understanding of all aspects of the COVID-19 pandemic, including these long-term symptoms, will allow us to respond to all the global health challenges, thus paving the way to a stronger public health.

Then, Anjana et al (2021) stated in India, Out of the 154 patients followed up, 57 (37%) were men and 97 (63%) were women. The mean (SD) age of study participants was 31.49 (18.4) years. At least one symptom was present in 120 (78.0%) patients at the time of admission. Cough (29, 18.8%), fever (26, 16.8%), headache (25, 16.2%), rhinitis (23,14.9%) and sore throat (18, 11.7%) were the major symptoms reported at the time of admission. At the end of three weeks, 11 (7.1%) patients and at the end of three months 18 (11.7%) patients reported to have symptoms. Fatigue (5.8%), headache (5.8%) myalgia (3.2%) joint pain (2.5%) and exertional dyspnea (2.5%) were the predominant symptoms. Presence of fatigue, cough and breathlessness at the time of admission, and presence of another COVID positive family member were significantly associated with the appearance of post COVID symptoms.

Last but not least, Aiyebusi et al (2021) specified Patients with ‘long COVID’ experience a wide range of physical and mental/psychological symptoms. Pooled prevalence data showed the 10 most prevalent reported symptoms were fatigue, shortness of breath, muscle pain, joint pain, headache, cough, chest pain, altered smell, altered taste and diarrhoea. Other common symptoms were cognitive impairment, memory loss, anxiety and sleep disorders. Beyond symptoms and complications, people with long COVID often reported impaired quality of life, mental health and employment issues. These individuals may require multidisciplinary care involving the long-term monitoring of symptoms, to identify potential complications, physical rehabilitation, mental health and social services support. Resilient healthcare systems are needed to ensure efficient and effective responses to future health challenges.

Methodology

Objects and research methods

A. Research subjects: patients who are 18 years or older after being infected with COVID-19 who have health problems come to the post-covid examination and agree to participate in the study and answer all the research questions.

Exclusion criteria: Patients who were found by their physician to have health problems that were confirmed to be due to a physical cause other than post-COVID-19 syndrome.

- Research period: from February 2022 to March 2022.
- Research site: Lam Dong Provincial General Hospital
- Research tools and materials: Personal questionnaire with information on: administration, duration of COVID-19 infection, severity of illness, Symptoms

appearing after COVID-19 infection affecting quality survival and treatment desirability of post-COVID-19 patients.

B. Research method: Cross-sectional descriptive study.

-How to choose a sample: Convenient sampling

C. Method of data collection: The patients who volunteered to participate in the study were interviewed after visiting with a closed-ended questionnaire.

Data analysis: The data is entered and analyzed by medical statistical analysis software.

Main findings

General characteristics of the patients participating in the study

A total of 120 patients with post-COVID-19 health problems attending post-COVID-19 examination agreed to participate and were eligible to participate in the study. In which, the average age is 47.12 ± 14.4 (under 50 years old, there are 72 people, accounting for 60% and from 50 years old and above, 48 people account for 40%). In which, there are 51 male people, accounting for 42.5%, and 69 women, accounting for 57.5%. The number of patients with underlying diseases in the study was 53 cases (44.2%) and 67 cases without background disease (55.8%).

Table 1
General characteristics of the patients participating in the study (n=120)

Feature		Number	Ratio
Sex	Male	51	42,5%
	Female	69	57,5%
Age	Under 50 years old	72	60%
	>= 50 years old	48	40%
Average age (Mean \pm SD)		47,12 \pm 14,4	
Underlying disease	Have	53	44,2%
	Not have	67	55,8%

Post-COVID-19 syndrome symptoms and associations

Table 2
Common post-COVID-19 symptoms

Symptoms	Male	Female	With underlying disease	Without underlying disease	Total
Chest tightness, shortness of breath, shortness of breath	26 (50,9%)	34 (49,3%)	43 (81,1%)	17 (25,4%)	60 (50%)
Persistent cough	46 (90,2%)	57 (82,6%)	51 (96,2%)	52 (77,6%)	103 (85,8%)
Tired	12 (23,5%)	42 (60,9%)	24 (45,3%)	30 (44,8%)	54 (45%)

Loss of memory, forgetfulness, decreased concentration	14 (27,5%)	38 (55,1%)	23 (43,4%)	29 (43,3%)	52 (43,3%)
Mental instability, anxiety, depression	8 (15,7%)	22 (31,9%)	11 (20,8%)	19 (28,4%)	30 (25%)
Sleep disturbance, dizziness	16 (31,4%)	45 (65,2%)	35 (66%)	26 (38,8%)	61 (50,8%)
Physical decline	25 (49%)	22 (31,9%)	28 (52,8%)	19 (28,4%)	47 (39,2%)

Looking at Table 2, we can see that the most common health problems that post-COVID-19 patients encounter are persistent cough (85.8%), followed by sleep disturbances and dizziness (50.8%).), chest tightness, shortness of breath, shortness of breath (50%), fatigue (45%). The number of female patients with neurological and psychological problems appeared more than men: such as memory impairment, forgetfulness, decreased concentration (55.1% versus 27.5%), sleep disturbances, dizziness (65.2% vs 31.4%), mental instability, anxiety, depression (31.9% vs 15.7%), among other symptoms appeared almost identically in both sexes.

Table 3
Relationship between post-COVID-19 syndrome and disease manifestations

Level (person) Symptom	Mild level (80)	Moderate level (31)	Severe Level(8)	Dangerous Level (1)
Chest tightness, shortness of breath, shortness of breath	24	27	8	1
Persistent cough	65	29	8	1
Tired	30	15	8	1
Loss of memory, forgetfulness, decreased concentration	31	12	8	1
Mental instability, anxiety, depression	20	4	5	1
Sleep disturbance, dizziness	30	22	8	1
Physical decline	22	17	7	1

The results of the study in Table 3 show that the more severe the patient's symptoms at the time of COVID-19 infection, the higher the risk of post-COVID-19 syndrome after the patient recovers, and the higher the level of disease. the more severe the effects of the syndrome.

Table 4
Impact of post-COVID-19 syndrome on quality of life

Mức độ ảnh hưởng đến chất lượng cuộc sống	Number	Ratio
Không ảnh hưởng đến cuộc sống	6	5%
Ảnh hưởng ít đến cuộc sống	79	65,8%
Ảnh hưởng nhiều đến cuộc sống	35	29,2%

The study results of Table 3 show that only 5% of patients with post-COVID-19 syndrome have no impact on their quality of life while the remaining 95% of patients feel that post-COVID-19 syndrome- 19 degrades their quality of life more or less.

Discussion

The study had 120 patients after being infected with COVID-19 who came to the clinic because of health problems with an average age of 47.12 ± 14.4 . In which, 42.5% of patients are male and 57.5% are female, so there is not much difference between men and women when coming to the clinic after COVID-19 but there is a difference between patients with underlying disease and no underlying disease. Patients with underlying medical conditions are at greater risk for and exhibit symptoms of post-COVID-19 syndrome than patients without underlying medical conditions.

The most common symptoms of post-COVID-19 syndrome are specific respiratory symptoms such as persistent cough (85.8%) and chest tightness, shortness of breath, shortness of breath (50%), this symptom appear to be similar in both sexes and present at all levels of illness during the acute phase of COVID-19 infection even if you were not diagnosed with lung injury during that period.

A next concern is the functional decline of the nervous system after COVID-19 infection. Through the study, we found that the manifestations of functional impairment of the nervous system are accounting for a fairly large proportion, such as symptoms of memory impairment, forgetfulness, decreased concentration (43.3%), other symptoms. This greatly affects the patient's quality of life. According to studies in the world, it has also been shown that in the world, there have been many cases of impaired function of the nervous system in patients after being infected with COVID-19 or referred to under the name "Sickness syndrome". "Brain fog", some of the causes that are thought to cause this decline are brain hypoxia due to lung damage, encephalitis, brain stroke, autoimmune disorders that cause the immune system to fail. The epidemic attacks healthy cells in the body, which are nerve cells.

The mental health of post-COVID patients is also a matter of concern. Through the study, we found that patients with post-COVID-19 syndrome also have many mental health problems such as feeling tired (45%), mental instability, anxiety, depression (25) %), sleep disorders (50.8%), these psychological problems are more common in women than in men. The cause may be due to stress, anxiety about the health of themselves and the patient's family, this anxiety occurs for a long time, making the patient's spirit always stressed. At the same time, most patients when being treated have to be isolated from their relatives, especially those who have to be isolated and treated at medical facilities when there are no sick relatives next to them. Severe, obsessive treatment about the treatment process severely affects the psychology of patients during and after COVID-19 treatment. Moreover, long-term social distancing and job loss during the pandemic also contribute to aggravating the psychological condition of COVID-19 patients.

The more severe the patient's symptoms at the time of COVID-19 infection, the higher the risk of post-COVID-19 syndrome and the more severe the effects of the syndrome. Through the study, we also found that the degree of impact on the quality of life after COVID-19 infection of patients was very large (95%) in terms of both physical health and mental health of the patient. Therefore, all patients with post-COVID-19 syndrome need to be treated to recover quickly and return to normal life.

The limitation of the study is that it has not been able to survey all patients infected with COVID-19 in Da Lat city, so the percentage of patients with post-COVID-19 syndrome has not been determined. the burden of disease that the post-COVID syndrome brings to the health of patients and the public health sector.

Conclusion

Through a study of 120 patients in Da Lat and Lam Dong cities who came to the clinic because of health problems after being infected with COVID-19, we can see that the health problems that many patients face are persistent coughs. persistent (85.8%). Another issue is that the mental health of post-COVID-19 patients is also hardest hit, especially women and the elderly, who are vulnerable during the pandemic. Post-COVID-19 syndrome causes a severe decline in quality of life in the majority of people (95%), the patient's need for treatment is great, so it is necessary to have a plan for examination and timely intervention. Time to help post-COVID-19 patients return to normal life soon.

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Conflicts of interest

Authors declare there is no conflict of interest

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